WINDOWS AND OPERATING MECHANISM

42

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GENERAL DESCRIPTION

Toughened safety glass is flexibly mounted to all window apertures, excepting the windscreen via groove weatherstrip assemblies. A laminated windscreen is available as optional equipment on all models. This type of screen consists of a layer of clear plastic sandwiched between two layers glass. When struck with sufficient force the screen does not shatter but only cracks, allowing virtually unimpeded vision.

The driver and passenger hinged door windows may be raised, or lowered, by means of one piece cable-type regulator mechanism. These mechanisms are retained to the door inner panel with screws and are bolted to the window glass bracket. The door window glass slides in lined channelling in the window frame and door shell.

Opening quarter vent windows pivoting within a separate framework, are available as an option with hinged front doors in instances where the opening quarter window options is not taken up, fixed triangular, glass pieces are located between the window vertical channel and the window frame.

The glass used with the sliding cab door is one piece fixed, and one piece sliding. The sliding glass is locked by a spring loaded catch mounted on the door frame.

Side windows, Rear Door windows and Tailgate windows are all fixed and are retained in their various apertures by conventional rubber weatherstrips.

Opening rear quarter windows are available as an option. These are hinged at their leading edge and operated by an over centre catch, bolted through the glass and held to the rear pillar by two screws.

SERVICE ADJUSTMENTS AND CHECKS

None required

SPECIAL SERVICE TOOL RECOGNITION

Tool	Tool Name
	None required.

G/7/079/D

SERVICE AND REPAIR OPERATIONS – CONTENT

WINDOWS AND OPERATING MECHANISM		Described in this publication	Contained in operation	Also applicable to certain variants in the following model range					
				Transit '77	Fiesta	Escort '75 onwards	Capri	Taunus '76 Cortina	Granada '78
42 114	Windscreen – Remove and Install	X		X	X	X	X	X	X
42 115	Windscreen – Replace		42 114						
42 214	Glass – Door quarter window fixed – Remove and Install								
42 254	Opening quarter window assembly – Remove and Install		42 214						
42 254 8	Opening quarter window – Dismantle and Reassemble	X		X					
42 255	Glass – Opening door quarter window – Remove and Install		42 254 8						
42 272	Catch – Door quarter window – Replace		42 254 8						
42 314	Glass – Door window – Remove and Install	X		X					
42 314 4	Bracket – Door window glass to regulator – Remove and Install	X		X					
42 334 4	Runs – Door window – Replace	X		X					
42 338	Regulator assembly – Door window – Remove and Install	X		X					
42 364	Glass and frame assembly – Sliding window – Remove and Install	X		X					
42 414	Glass – Side window – Remove and Install	X		X					
42 464	Glass – Partition panel – Replace	X		X					
42 514	Glass – Fixed rear quarter window – Remove and Install		42 414						
42 534	Opening rear quarter window assembly – Remove and Install		42 536						
42 536	Glass – Opening rear quarter window – Remove and Install	X		X					
42 544	Catch – Opening rear quarter window – Remove and Install		42 536						
42 546	Weatherstrip – Opening rear quarter window – Remove and Install	X		X					
42 634	Glass – Rear door window – Remove and Install	X		X					
42 554	Glass – Tailgate window – Remove and Install		42 414						

SERVICE AND REPAIR OPERATIONS

42 114 WINDSCREEN – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. Cover hood and cowl with cloth to prevent accidental damage.
2. Remove windscreen wiper arms and blades.
3. Using a lipping tool from inside car, push weatherstrip lip under top and sides of aperture flange. Push out weatherstrip and glass as an assembly.
4. Remove weatherstrip.
5. Clean aperture and weatherstrip. Check aperture flanges for buckles and distortion. Dress, if necessary.

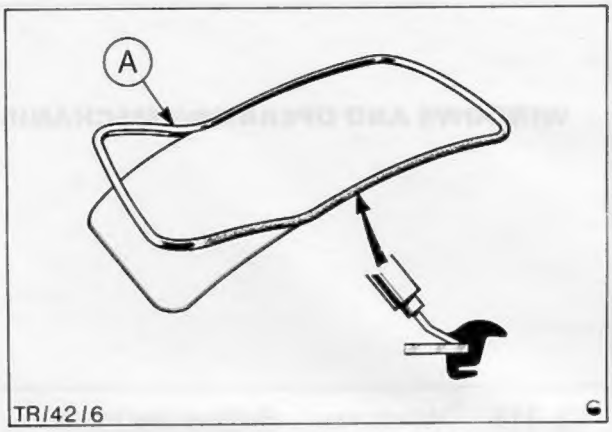

Fig. 1. Weatherstrip (A) to windscreen assembly

To Install

6. Fit weatherstrip to glass and fit length of cord in the rubber to body groove of weatherstrip so that cord ends emerge at bottom corner. Allow a crossover of cord ends of approximately 150 mm (6,0 in). If draw cord is passed through short length of metal tube and tube then used to separate weatherstrip lips insertion of cord may be simplified by drawing tube around periphery of weatherstrip. To assist in retaining weatherstrip to glass short lengths of masking tape may be stuck over weatherstrip and secured to both sides of glass. Seal rubber to glass location.
7. Using PVC foam tape (SQM 3G9505A. 9,0×6,0 mm) remove backing paper and apply tape to exterior horizontal flanges of windscreen aperture.
8. Offer glass and weatherstrip assembly to body aperture. Push assembly up until groove in weatherstrip engages top transverse flange of body aperture. Ensure that draw cord ends are inside passenger compartment and push window firmly in at base. From inside vehicle commence pulling one end of drawcord from weatherstrip groove. As cord is withdrawn apply pressure to glass from outside, either by hand or rubber mallet, in immediate vicinity of cord. When top centre of window is reached repeat procedure with other end of cord. Remove masking tape as installation proceeds.
9. Refit windscreen wiper arms and blades.
10. Remove cowl covering.

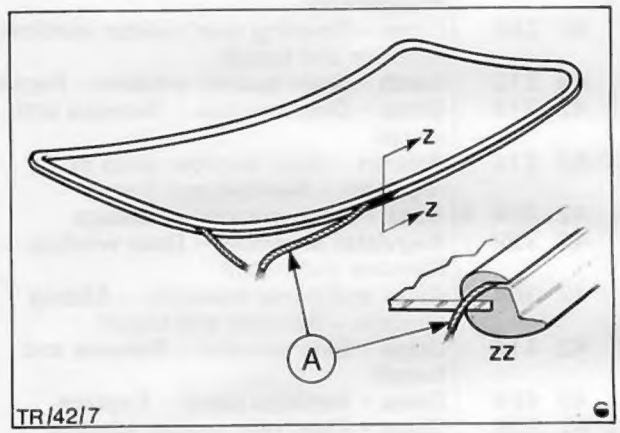

Fig. 2. Windscreen drawcord (A) inserted

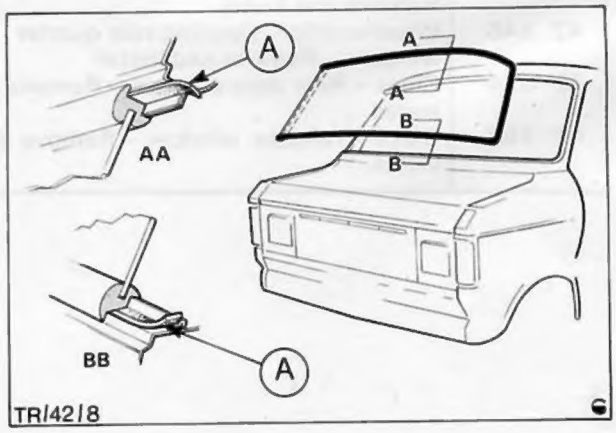

Fig. 3. PVC foam tape locations (A) on windscreen aperture

42 214 GLASS – DOOR QUARTER WINDOW – FIXED – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. Remove door trim panel.
2. Pull down plastic sheet as necessary to gain access to quarter window glass fixings.
3. Peel back adhered section of door belt weatherstrips from vent window channelling and remove inner and outer door belt weatherstrips from door.
4. Remove screw and flat washer assembly retaining quarter window channelling to door inner panel.
5. Similarly remove two screw, lock and flat washer assemblies securing quarter window frame to door window frame. Remove quarter window and frame assembly from door shell.
6. Drill out two pop rivets securing top of quarter window frame and two tubular rivets securing lower end of frame to dividing bar.
7. Separate frame and glass from dividing bar and then glass from frame.
8. Remove weatherstrip from glass.

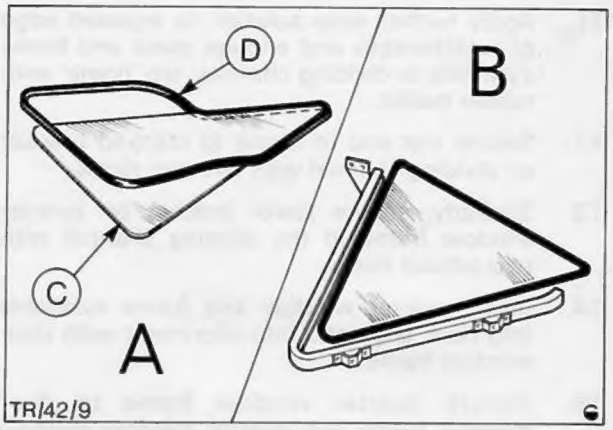

Fig. 4. Glass and weatherstrip assembly
A – Glass (C) and weatherstrip (D)
B – Glass/weatherstrip to frame

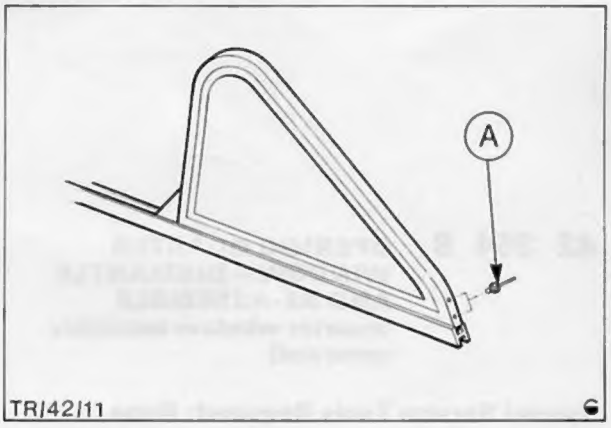

Fig. 5. Pop rivet (A) assembly quarter window frame (top)

To Install

9. Assemble weatherstrip around perimeter of glass.
10. Brush soap solution onto weatherstrip and locate glass and weatherstrip assembly into channelling of frame. Tap firmly into place using a rubber mallet.

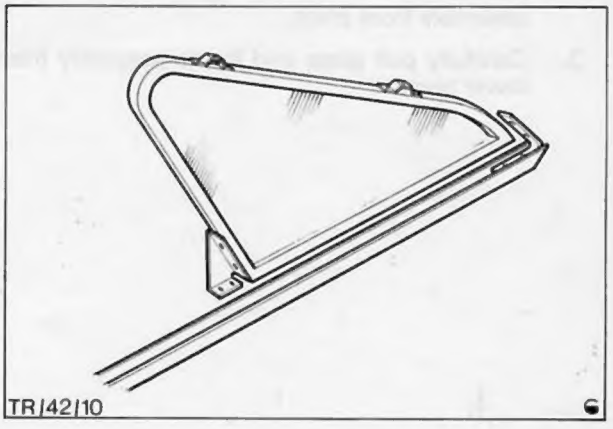

Fig. 6. Glass and frame assembly to dividing bar

11. Apply further soap solution to exposed edge of weatherstrip and engage glass and frame assembly in dividing channel, tap 'home' with rubber mallet.
12. Secure top end of frame to cranked bracket on dividing channel with two pop rivets.
13. Similarly, secure lower bracket on quarter window frame to the dividing channel with two tubular rivets.
14. Insert quarter window and frame assembly into door shell and into alignment with door window frame.
15. Secure quarter window frame to door window frame and quarter window dividing channel to door inner panel with screw and washer assemblies.
16. Refit door belt weatherstrips, adhering overlap sections to quarter window assembly.
17. Refit plastic sheet and door trim panel.

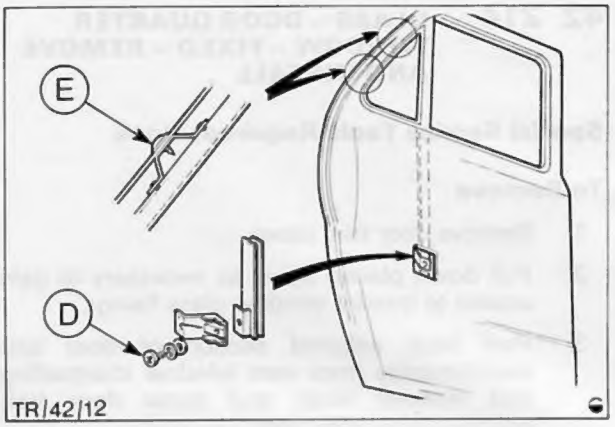

Fig. 7. Door quarter window frame fixing to door
E – Fixing at door window frame
D – Fixing at door inner panel

42 254 8 OPENING QUARTER WINDOW – DISMANTLE AND RE-ASSEMBLE (quarter window assembly removed)

Special Service Tools Required: None

1. Slacken and remove screw securing clip on lower pivot.
2. Carefully drill out end of special shouldered rivet retaining glass and frame to upper pivot. Remove rivet, cover, spacer and insert assembly from pivot.
3. Carefully pull glass and frame assembly from lower pivot.

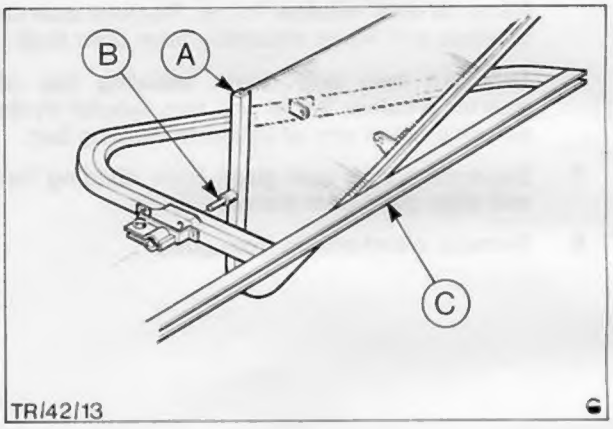

Fig. 8. Lower pivot clamp
A – Glass and frame
B – Lower pivot
C – Quarter window frame

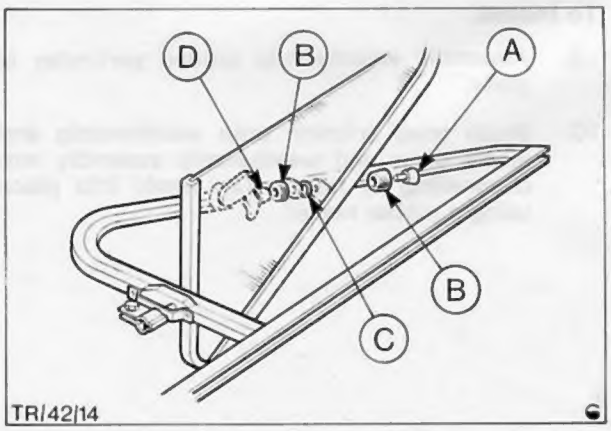

Fig. 9. Spacer and insert assembly, upper pivot
A – Shoulder rivet
B – Cover
C – Spacer
D – Insert

4. If required fully remove screw securing clip to lower pivot and detach clip.
5. Drill out rivets securing weatherstrip along dividing bar, and remove weatherstrip from dividing bar and frame assembly.
6. Carefully support glass and frame assembly and tap out pin from handle. Pull handle and washer off shaft.

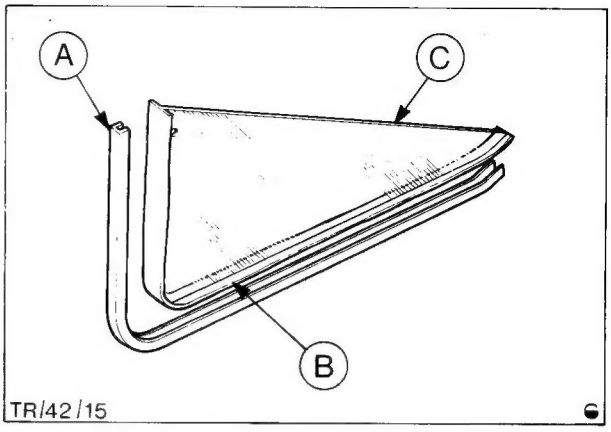

Fig. 10. Glass and seal assembly to frame
A – Frame
B – Seal
C – Glass

7. With handle removed, unscrew shaft nut and separate shaft, nut and washer assembly.
8. If a new glass is being fitted, press a strip of glazing and sealing mastic into 'U' channel of glass frame. Push glass edge into channel and tap with rubber mallet to secure. Clean excess sealer from both sides of frame.

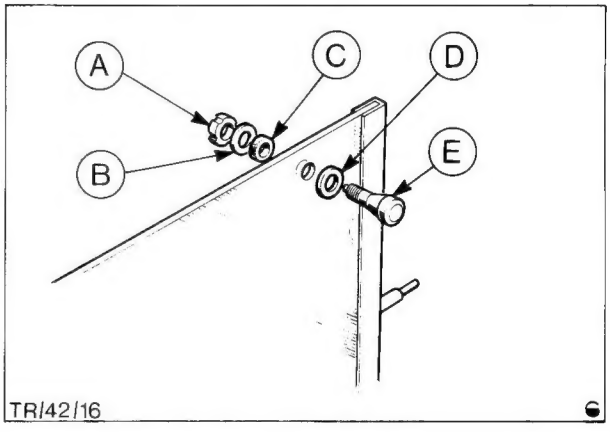

Fig. 11. Handle shaft assembly to glass

9. Assemble a sealing washer on to handle shaft, insert shaft through hole in glass and assemble a further sealing washer, flat washer, lock washer and nut onto shaft. Tighten nut to secure assembly.
10. Grease remaining length of handle shaft then assemble flat washer and handle onto shaft. Secure handle by inserting pin, ensure locking face of handle is parallel to glass face.
11. Brush soap solution on to weatherstrip and fit weatherstrip to dividing channel and frame assembly. Complete assembly to dividing channel with four 'pop' rivets.

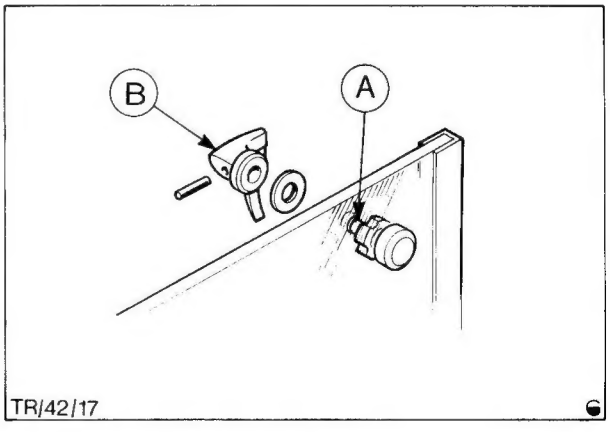

Fig. 12. Handle assembly to shaft

12. If required, assemble clip to lower pivot bracket on dividing channel and frame assembly, loosely retain with screw.
13. Grease lower pivot pin on glass and frame assembly and insert pin into lower pivot on dividing channel and frame assembly.
14. Insert a spacer between upper pivot lugs and secure lugs with rivet. Tighten screw on lower pivot clip.

    NOTE: For Ford Germany built vehicles upper pivot assembly consists of: shoulder rivet, cover, spacer, cover and insert. (Fig. 9.)

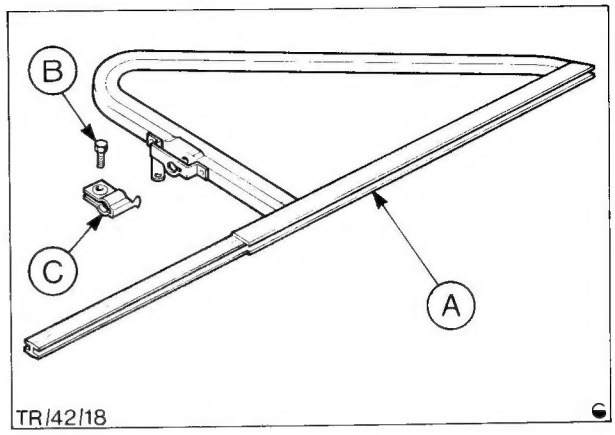

Fig. 13. Clip assembly to lower pivot
A – Quarter window frame
B – Screw
C – Clip

42 314 GLASS – DOOR WINDOW – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. Remove door trim panel see Operation No. 43–712.
2. Peel plastic sheet clear of door inner panel apertures.
3. Remove vent window assembly.
4. Remove inner and outer door belt weatherstrips.
5. Raise glass sufficiently to give access to regulator plate screws through cut-out. Remove screws and withdraw glass via window aperture.

To Install

6. Insert glass in door shell and secure to regulator plate with two screws. Raise and lower glass to check function before finally tightening screws.
7. Refit inner and outer door belt weatherstrips.
8. Refit plastic sheet and door trim panel.

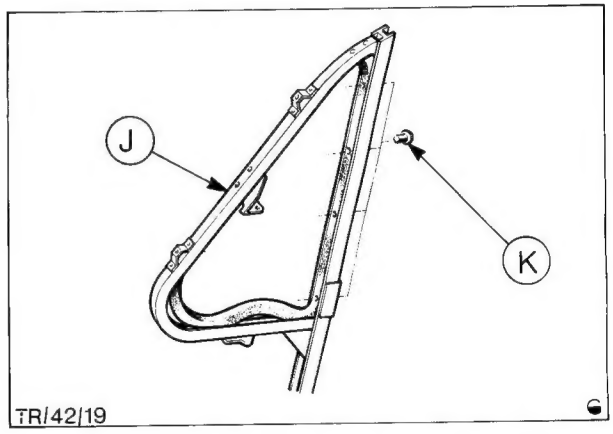

Fig. 14. Rivet assembly, quarter window weatherstrip to dividing bar
J – Quarter window channel
K – Rivet

42 314 4 BRACKET—DOOR WINDOW GLASS TO REGULATOR – REMOVE AND INSTALL (door window glass removed)

Special Service Tools Required: None

1. Carefully tap bracket off glass.

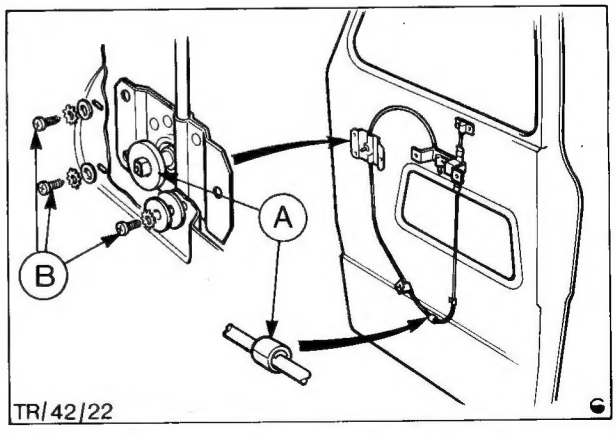

Fig. 15. Regulator plate assembly to door
A – Anti rattle pads
B – Regulator plate screws

To Install

2. Position weatherstrip along bottom edge of glass, aligning ends of weatherstrip with ends of glass.
3. Seat glass and weatherstrip assembly into 'U' channel of bracket and tap into place with rubber mallet.

42 334 4 RUNS – DOOR WINDOW – REPLACE (door glass removed)

Special Service Tools Required: None

To Remove

1. Remove screw and washer assembly securing door run assembly retainer to inner panel.
2. Carefully pull retainer and door glass run from channel in door frame.

To Install

3. Assemble retainer to door glass run then locate retainer and run assembly into channel in door frame.
4. Align retainer into position on door inner panel and secure with screw, lock, flat and fibre washer assembly, Fig. 17. Slide retainer towards door lock before finally tightening screw.

42 338 REGULATOR ASSEMBLY – DOOR WINDOW – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. Remove door trim panel and plastic sheet.
2. Support door window and remove screw and washer assemblies securing glass bracket to regulator plate. Lower glass to bottom of door shell.

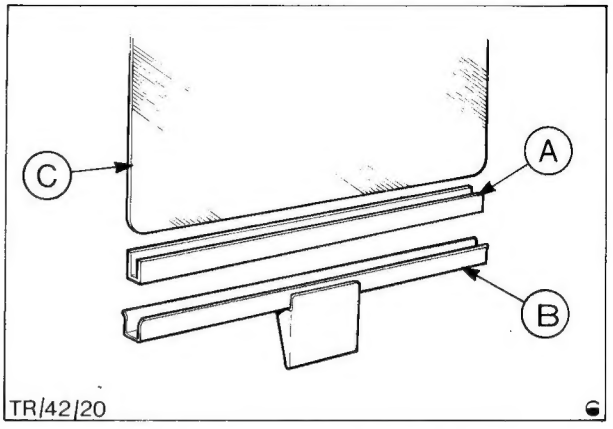

Fig. 16. Glass and bracket assembly door window
A – Weatherstrip
B – Channel
C – Glass

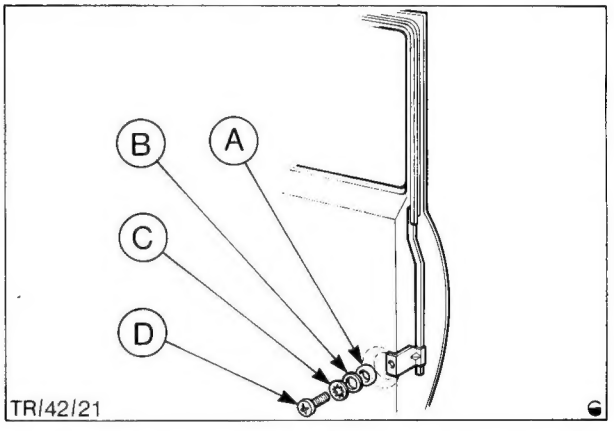

Fig. 17. Door glass run and retainer assembly to door inner panel
A – Fibre washer
B – Flat washer
C – Lock washer
D – Screw

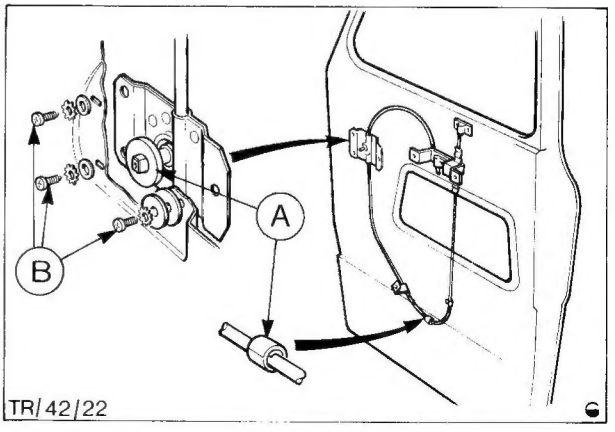

Fig. 18. Regulator plate assembly to door
A – Anti rattle pads
B – Regulator plate screws

3. Remove screw and washer assemblies securing remote handle assembly to door inner panel.
4. Remove screw and washer assembly securing regulator cable lower fixing bracket to door inner panel.
5. Similarly, remove two screw and washer assemblies securing cable upper bracket, and a further three screw and washer assemblies securing the regulator plate.
6. Remove screw securing lower end of quarter window dividing channel, push channel to one side and withdraw regulator from door shell.

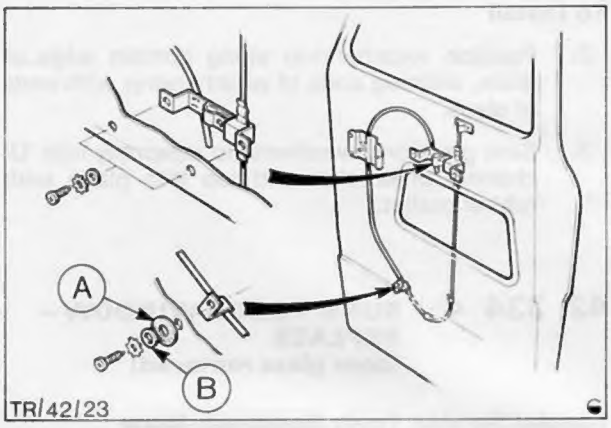

Fig. 19. Regulator upper and lower fixing brackets

To Install

7. Locate regulator assembly within door shell in approximately its final alignment.
8. Re-align quarter window dividing channel and secure with screw and washer.
9. Position an anti-rattle pad over regulator shaft plate so that it is positioned between plate and inner panel. Similarly check that a further anti-rattle pad is in place around cable at extreme lower bend of cable run.

10. Secure regulator plate to door with two screws, flat and shake-proof washers on front holes of plate, and a screw large flat, and large fibre washer on rear hole.
11. Similarly, insert and tighten two screw and shake-proof washers to secure upper cable bracket to door inner panel.
12. Finally, insert and tighten screw, shake-proof washer, large flat and large fibre washers to secure lower bracket to inner panel.

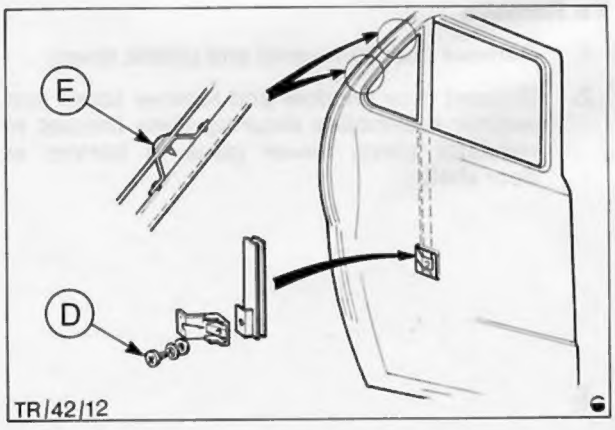

Fig. 20. Door quarter window frame fixing to door

13. Wind regulator as necessary to bring door glass bracket into view in door aperture. Raise glass and secure to bracket with two screw and washer assemblies.
14. Refit plastic sheet and door trim panel.

42 364 GLASS AND FRAME ASSEMBLY – SLIDING WINDOW – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. Using a lipping tool, push weatherstrip lip under top and sides of aperture flange. From inside cab push out weatherstrip, frame and glass as an assembly.
2. Carefully prise fillers from upper and lower sections of weatherstrip, immediately to rear of fixed glass.
3. Carefully prise sliding glass and handle assembly from weatherstrip and frame.
4. Similarly remove fixed glass.
5. If necessary, remove weatherstrip by pulling glass runs from upper and lower horizontal sections of weatherstrip and then pulling weatherstrip from frame.

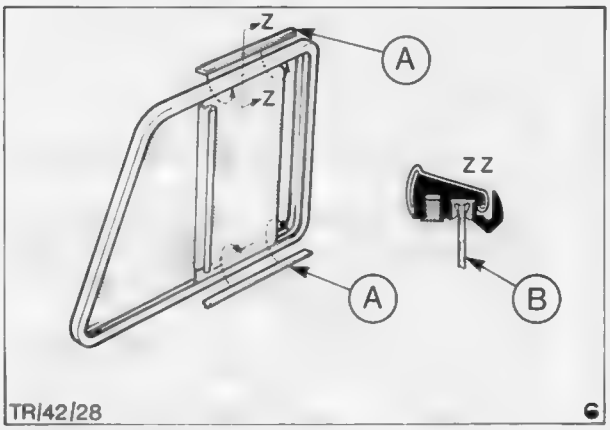

Fig. 21. Filler location sliding window assembly
A – Filler
B – Glass

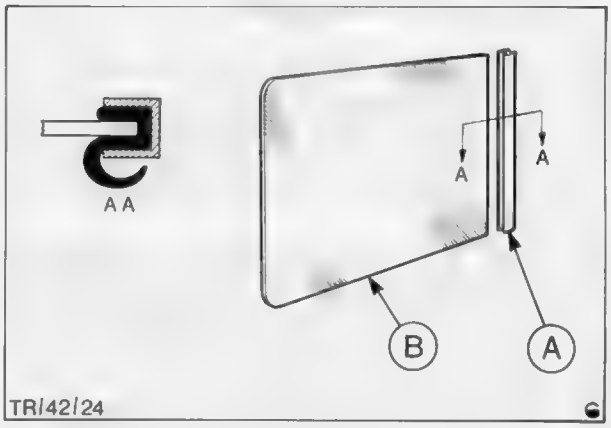

Fig. 22. Weatherstrip to rear vertical edge of glass
A – Weatherstrip
B – Glass

To Install

6. If new fixed glass is being fitted, brush soap solution along rear vertical edge of glass then tap fixed glass weatherstrip into place on vertical edge, using rubber mallet.
7. If new sliding glass is being fitted, lay a length of sealing and glazing strip into 'U' channel of sliding glass handle and tap glass into channel using a rubber mallet. Trim off excess glazing strip.

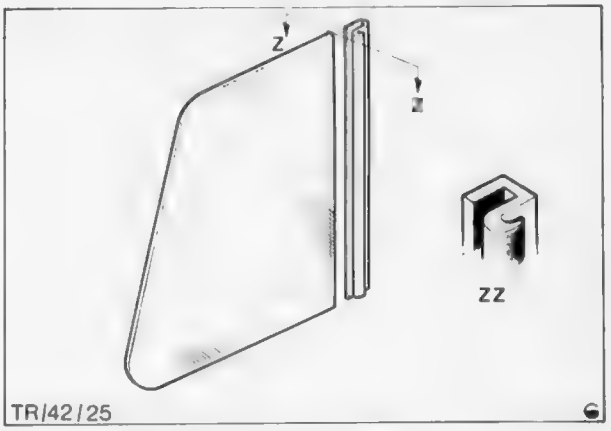

Fig. 23. Fixed glass weatherstrip assembly

8. Assemble glass runs into upper and lower horizontal sections of frame weatherstrip.
9. Check that rubber buffers are in place on lower edge of frame 'U' channel.
10. Insert weatherstrip and run assembly into channel.
11. Apply sealer SM4G 4631 A. to weatherstrip at fixed glass location. Insert fixed glass into appropriate channel and slide into position. Clean sealer from glass.
12. Similarly insert sliding glass and handle assembly into remaining channel.
13. Using adhesive, GES M2G 4502 A, or a suitable alternative, coat underside of each filler with a film of adhesive. Press fillers into fixed glass channels (upper and lower) immediately to rear of fixed glass.
14. Fit length of cord in the rubber to body groove of weatherstrip so that cord ends emerge at bottom centre.

    Allow a crossover of cord ends of approximately 150 mm (6,0 in) If draw cord is passed through short length of metal tube and tube then used to separate weatherstrip lips insertion of cord may be simplified by drawing tube around periphery of weatherstrip.
15. Offer glass and weatherstrip assembly to body aperture Push assembly up until groove in weatherstrip engages top horizontal flange of body aperture. Ensure that draw cord ends are inside cab and push window firmly in at base. From inside vehicle commence pulling one end of draw cord from weatherstrip groove. As cord is withdrawn apply pressure to glass from outside either by hand or rubber mallet, in immediate vicinity of cord.

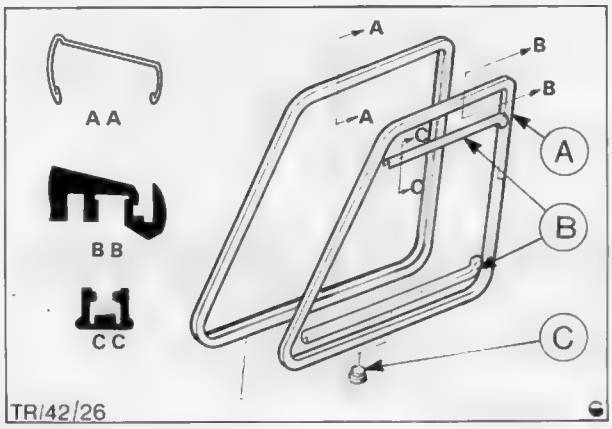

Fig. 24. Sliding window frame and weatherstrip assembly
A – Weatherstrip
B – Glass runs
C – Buffers

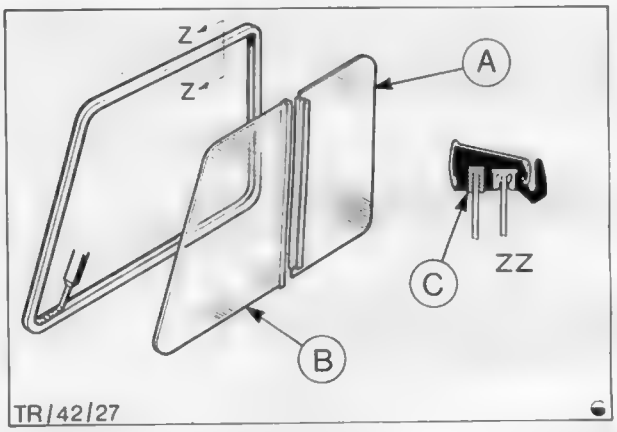

Fig. 25. Sliding window glass assembly
A – Sealer
B – Fixed glass
C – Sliding glass and handle

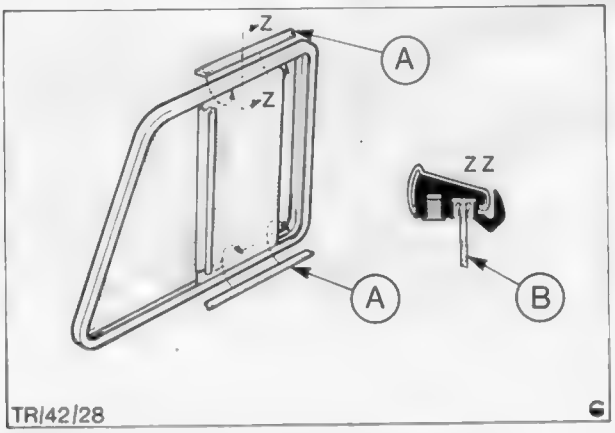

Fig. 26. Filler location in glass and frame assembly
A – Filler
B – Glass

42 414 GLASS – SIDE WINDOW – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. From inside vehicle, using a lipping tool, push upper horizontal edge of weatherstrip under window aperture flange.
2. When approximately two thirds of weatherstrip is under flange, push glass and weatherstrip out of aperture as an assembly.
3. Carefully remove weatherstrip from glass.

To Install

4 If window glass is being replaced due to accident damage, ensure that aperture is dimensionally correct, flange height (13 mm nominal) is as specified and that flange is free from buckles and distortion. Carefully clean any shattered glass from the weatherstrip grooves and scrape any sealer from rubber weatherstrip, or body aperture flange.

5. Fit weatherstrip to glass, and fit length of cord in the rubber to body groove of weather strip so that cord ends emerge at bottom corner.
6. Allow a crossover of cord ends of approximately 1500 mm (6,0 in). If draw cord is passed through short length of metal tube and tube then used to separate weatherstrip lips insertion of cord may be simplified by drawing tube around periphery of weatherstrip Fig. 27.
7. Seal weatherstrip to glass, location.
8. Using SQM 3G9S05-A PVC foam tape (9,0×6,0 mm) remove backing paper from tape and apply to horizontal flange of window aperture.
9. Offer glass and weatherstrip assembly to body aperture. Push assembly up until groove in weatherstrip engages top transverse flange of body aperture. Ensure that draw cord ends are inside passenger compartment and push window firmly in at base. From inside vehicle commence pulling one end of draw cord from weatherstrip groove. As cord is withdrawn apply pressure to glass from outside either by hand or rubber mallet, in immediate vicinity of cord.

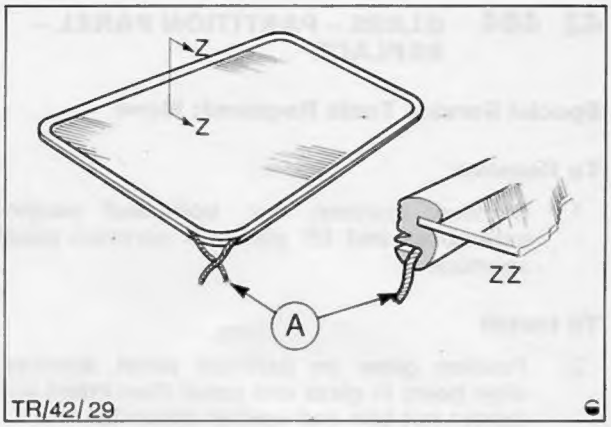

Fig. 27. Glass, weatherstrip and drawcord assembly
A – Cord

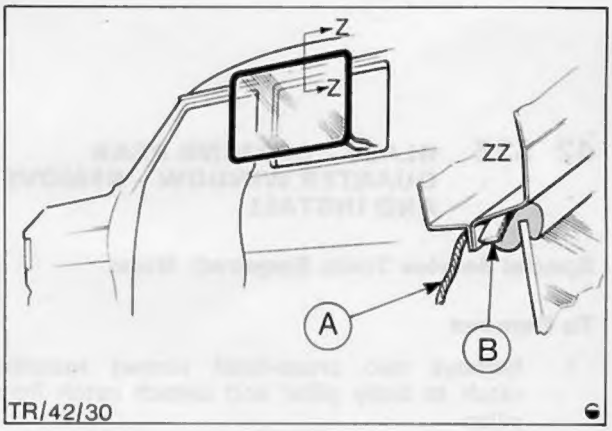

Fig. 28. Foam tape location on fixed window
A – Cord
B – Foam tape

42 464 GLASS – PARTITION PANEL – REPLACE

Special Service Tools Required: None

To Remove

1. Remove fourteen nut, bolt and washer assemblies and lift glass off partition panel aperture.

To Install

2. Position glass on partition panel aperture, align holes in glass and panel then insert and tighten nut bolt and washer assemlies.

   NOTE: Some locations may have the partition panel glass retained by a weatherstrip assembly. For this type of assembly proceed as for Operation No. 42–414 but exclude sealing operations.

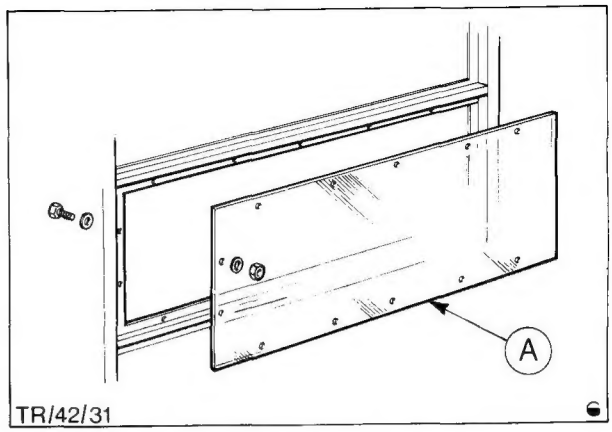

Fig. 29. Partition panel glass assembly
A – Glass

42 536 GLASS – OPENING REAR QUARTER WINDOW – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. Remove two cross-head screws securing catch to body pillar and detach catch from pillar.

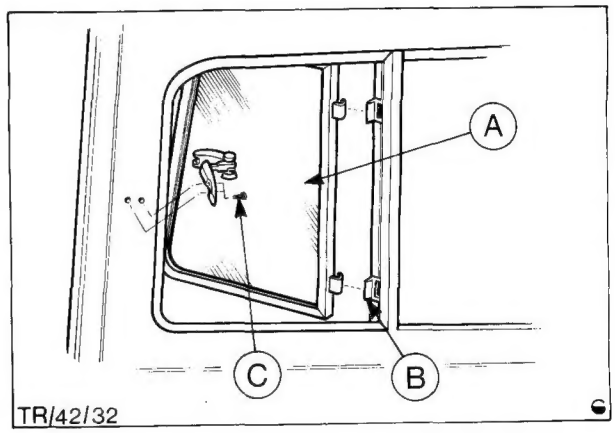

Fig. 30. Rear quarter window assembly
A – Glass
B – Hinge rubber
C – Screw

2. Using a screwdriver blade, wrapped in cloth, inserted between glass and window aperture carefully lever glass and frame assembly rear wards to disengage hinges from hinge rubbers. Lift glass and frame assembly off vehicle when hinges clear rubbers.
3. Unscrew headless screw pin securing catch to glass bracket and detach catch from glass.
4. Removal of headless screw pin and catch exposes cross-head screw retaining bracket to glass. Remove screw, nut and grommet assembly and detach bracket from glass.

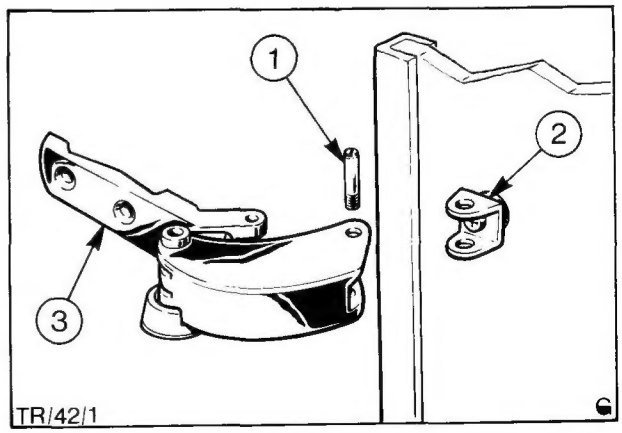

Fig. 31. Catch assembly to glass bracket
1 – Headless pin, 2 – Bracket; 3 – Catch

5. Remove cross-head screws, two each end, securing vertical section of frame to curved section. Lift vertical section off glass and remove sealing strip.
6. Pull glass and sealing strip from curved section of frame.

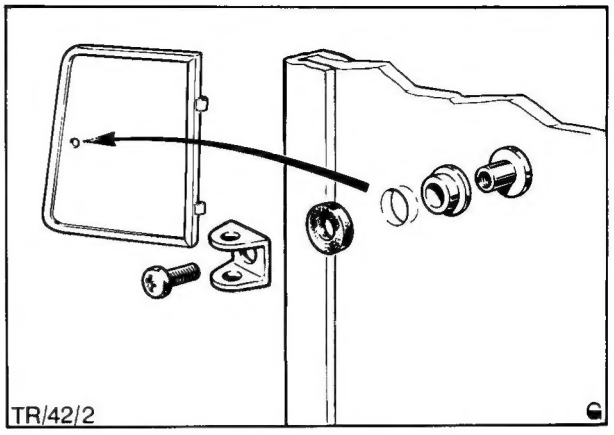

Fig. 32. Catch bracket assembly on glass

To Install

7. Assemble a strip of glazing and sealing mastic to curved edge of glass. Tap glass and seal assembly into curved section of frame.
8. Assemble a strip of sealing mastic to unframed edge of glass, then locate vertical section of frame on glass edge and secure to curved section with four cross-head screws. Trim off excess sealer.
9. Assemble two 'top hat' grommets into catch hole in glass. Position bracket on glass (with slot to top) and secure bracket with screw and nut inserted through grommets.

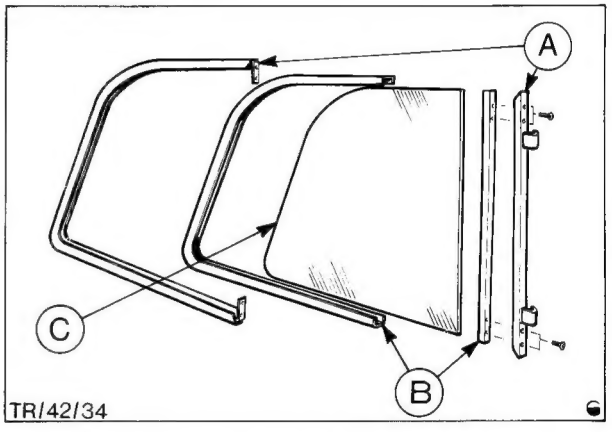

Fig. 33. Frame and sealing, vertical glass edge
A – Frame
B – Glazing and sealing mastic
C – Glass

10. Position catch on bracket, and insert and tighten headless screw to secure.
11. Lubricate pillar hinge rubbers with soap solution then push hinge pivot on glass frame into pillar rubbers, so that glass and frame pivot towards inside of vehicle.
12. Align holes in catch with those in pillar and insert and secure screws.

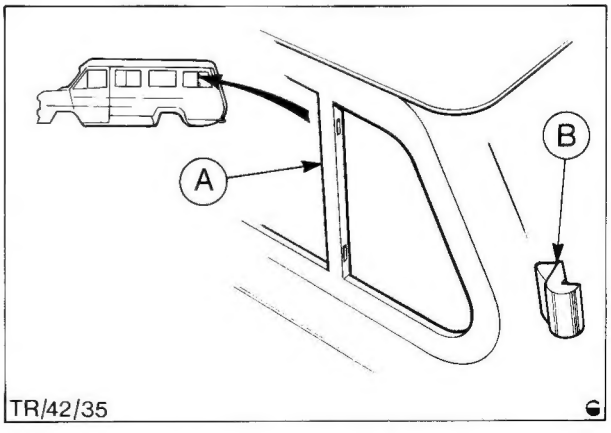

Fig. 34. Opening quarter window hinge pivot rubbers
A – Pillar
B – Hinge pivot rubbers

42 546 WEATHERSTRIP – OPENING REAR QUARTER WINDOW – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. Remove opening rear quarter window glass and frame assembly, see Operation No. 42 534.
2. Pull weatherstrip and foam tape from flange.

To Install

3. Clean aperture flange, check for buckling and distortion, dress if necessary.
4. Remove backing from PVC foam tape and apply tape to horizontal flanges of window aperture.
5. Press weatherstrip onto flange, ensuring that it is uniformly and securely seated.
6. Refit opening rear quarter window glass and frame assembly.

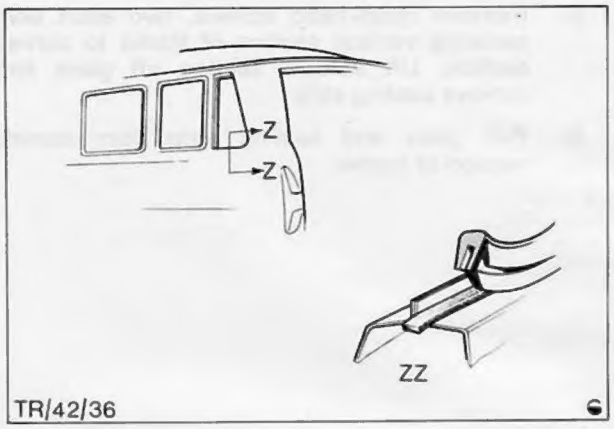

Fig. 35. Quarter window weatherstrip assembly on aperture flange

42 634 GLASS – REAR DOOR WINDOW – REMOVE AND INSTALL

Special Service Tools Required: None

To Remove

1. From inside vehicle, using a lipping tool, push upper horizontal edge of weatherstrip under window aperture flange. When approximately two-thirds of weatherstrip is under flange, push out glass and weatherstrip as an assembly. Remove weatherstrip from glass.

To Install

2. Check weatherstrip flange for buckles and distortion, dress if necessary.
3. Apply PVC foam tape to horizontal flanges of aperture.
4. Fit a new weatherstrip to glass, insert a draw cord and fit glass and weatherstrip to window aperture.
5. Seal glass and rubber once window is installed.

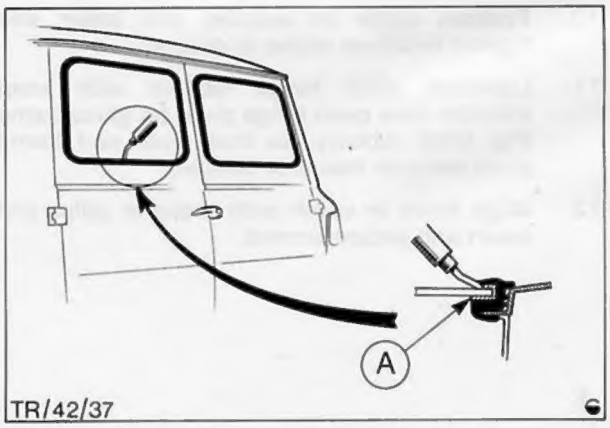

Fig. 36. Sealing rear door glass to rubber
A – Sealer